REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1, 2, 3, 21, 22, 23, 25, 26, 27, 30, 35, 36, and 37 have been amended. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-12, 21-33 and 35-41 are under consideration. Claims 13-20 are withdrawn. Reconsideration is respectfully requested.

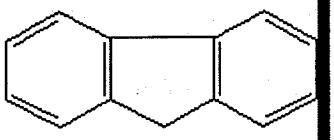
CHANGES TO THE SPECIFICATION AND CLAIMS:

The specification has been reviewed in response to this Office Action. Changes have been made to the specification only to place it in preferred and better U.S. form for issuance and to resolve the Examiner's objections raised in the Office Action. No new matter has been added.

It is respectfully submitted that there may be some confusion with respect to fluorene and fluorenone. Below are descriptions of both fluorene and fluorenone from http://www.chemicalland21.com/arokorhi/specialtychem/finechem/FLUORENE.htm and http://www.chemicalland21.com/arokorhi/specialtychem/finechem/FLUORENONE.htm, respectively:

FLUORENE

PRODUCT IDENTIFICATION



CAS NO.	86-73-7
EINECS NO.	201-695-5
FORMULA	$C_{13}H_{10}$
MOL WT.	166.22
~~H.S. CODE~~	
TOXICITY	
SYNONYMS	9H-Fluorene; o-Biphenylenemethane; o-Biphenylmethane; DiPhenylenemethane; 2,2'-Methylenebiphenyl; 2,3-Benzindene;
RAW MATERIALS	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	white solid
MELTING POINT	116 - 117 C
BOILING POINT	295 C
SPECIFIC GRAVITY	1.203
SOLUBILITY IN WATER	Insoluble
AUTOIGNITION	
pH	

VAPOR DENSITY	
NFPA RATINGS	
REFRACTIVE INDEX	
FLASH POINT	151 C
STABILITY	Stable under ordinary conditions. Oxidizes in light

GENERAL DESCRIPTION AND APPLICATIONS

Polycyclic aromatic hydrocarbons (also called polynuclear hydrocarbons) have two or more single or fused aromatic rings if a pair of carbon atoms is shared between rings in their molecules. In particular, the term 'PAH' refers to the compounds consisting of only carbon and hydrogen atoms while the wider term 'polycyclic aromatic compounds' includes the alkyl-substituted derivatives and functional derivatives such as nitro- and hydroxy-PAH as well as the heterocyclic analogues, which contain one or more hetero atoms in the aromatic structure. PAHs exist in various combinations that manifest various functions such as light sensitivity, heat resistance, conductivity, emittability, corrosion resistance and physiological action. The simplest examples are naphthalene having two benzene rings side by side and biphenyl having two bond-connected benzene rings. PAHs are not found in synthetic products and are non-essential for the growth of living cells. The general characteristics of PAH describe high melting- and boiling-points (they are solid), low vapour pressure, and very low water solubility, decreasing with increasing molecular weight whereas resistance to oxidation, reduction, and vapourization increases. Vapour pressure tends to decrease with increasing molecular weight. PAHs are highly lipophilic and readily soluble in organic solvents. The lower molecular weight PAHs of 2 or 3 ring groups such as naphthalenes, fluorenes, phenanthrenes, and anthracenes have toxicity which tends to decrease with increasing molecular weight. PAHs are not synthesized chemically for industrial purposes but are isolated from concentrated coal-tar products (or from pyrolysis of coal hydrocarbons) followed by subsequent purification through repeated distillation and crystallization. Some PAHs such as naphthalene are also obtained from the concentration of the high boiling residual oil (and asphalt) derived from crude petroleum refinery processing. These PAHs are mostly used as intermediaries in pharmaceuticals, agricultural products, photographic products, thermosetting plastics, lubricating materials, and other chemical industries. General uses are;

- Acenaphthene: Intermediate for naphthalic acids, naphthalic anhydride (intermediate for pigments) and for acenaphthylene (intermediate for resins); Intermediate for dyes, soaps, pigments, pharmaceuticals, insecticide, fungicide, herbicide and plant growth hormones. It is used to manufacture plastics and as an agent for inducing polyploidy.
- Acridine: Dye and pharmaceutical manufacturing
- Anthracene: Its oxidation yields anthraquinone, the parent substance of a large class of dyes and pigments; .diluent for wood preservatives; scintillant (for detection of high-energy radiation)
- Fluoranthene: manufacturing fluorescent and vat dyes, pharmaceuticals and agrochemicals.
- Fluorene: basic subsance for production of dyes, pigments, pesticides, thermosetting plastic and pharmaceuticals; manufacturing fluorenone (mild oxidizing agent)
- Naphthalene: In the production of phthalic anhydride, carbaryl insecticide, beta-naphthol, tanning agents, moth repellent, and surfactants - naphthalene: main use: production of phthalic anhydride (intermediate for polyvinyl chloride plasticizers); also, production of azo dyes, surfactants and dispersants, tanning agents, carbaryl (insecticide), alkylnaphthalene solvents (for carbonless copy paper), and use without processing as a fumigant (moth repellent)
- Phenanthrene: manufacturing phenanthrenequinone (intermediate for pesticides);

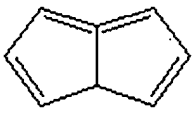
manufacturing diphenic acid (intermediate for resins)

- Pyrene: manufacturing perinon pigments
- Quinoline: solvent for resins & terpines; decarboxylation agent; parent compound to make drugs, fungicides, biocides, alkaloids, dyes, rubber chemicals and flavoring agents

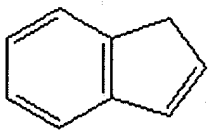
Precise PAHs, specific refined products are used also in the field of electronics, functional plastics and liquid crystals. Pharmaceutical and agricultural PAHs obtained coal tar are such materials as indole, indolizine, indene, quinoline, quinalidine, isoquinoline and their derivatives. High boiling-point special solvent are such materials as tetoralin, decaline, methyl-naphthalenes. Coumarins and dihydrocoumarins which can be obtained coal tar are PAHs used in perfumery. Thermosensitive paper sensitizer PAHs are such materials as p-benzylbiphenyl and ethylbiphenyl. Fluorene is a member of polycyclic aromatic hydrocarbon (PAH). Two benzene rings are fused to cyclopentane ring. It emits violet fluorescent color. It is not synthesized commercially but is obtained from middle oil fraction of coal tar. It is insoluble in water; soluble in ether and acetone; melting point 116-117 C. It plays important part in metallocene catalysts as a ligand. It is used in the formation of polyradicals for resins. It is used in manufacturing antimalaria drugs and other pharmaceuticals. Fluorene family compounds are base materials for dyes and optical brightening agents. They have useful functions such as light and temperature sensitivity, heat resistance, conductivity, emittability, corrosion resistance and detection of amino groups. They are used in the applications of thermo and light sensitizer, liquid crystal chemistry, luminescence chemistry, spectrophotometric analysis, molecular chemistry, organometallic-complexes and biochemorphology industry.

SALES SPECIFICATION	
APPEARANCE	white flakes
ASSAY (G.C)	97.0% min
MELTING POINT	115 ± 1 C
LOSS ON DRYING	0.5% max
TRANSMITTANCE	99.0% (50nm, 10% Toluene Sol.)
TRANSPORTATION	
PACKING	25kgs in fiber drum
HAZARD CLASS	3
UN NO.	1224

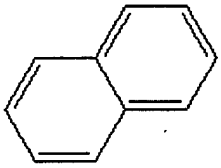
EXAMPLES OF PARENT PAH COMPOUNDS



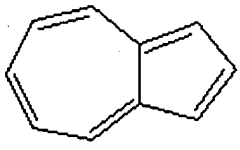
PENTALENE



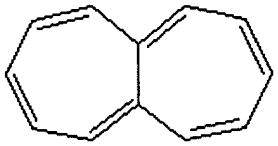
INDENE (CAS RN: 95-13-6)



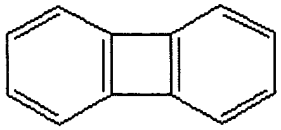
NAPHTHALENE (CAS RN: 91-20-3)



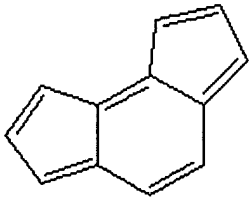
AZULENE (CAS RN: 275-51-4)



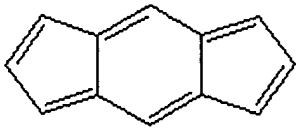
HEPTALENE



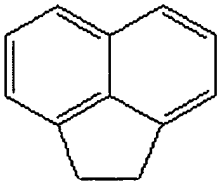
BIPHENYLENE (CAS RN: 259-79-0)



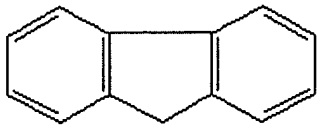
as-INDACENE



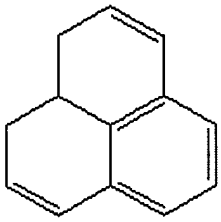
s-INDACENE



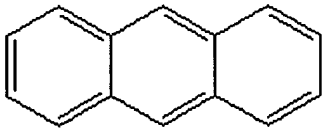
ACENAPHTHALENE (CAS RN: 83-32-9)



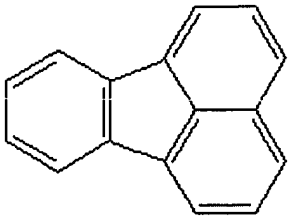
FLUORENE (CAS RN: 86-73-7)



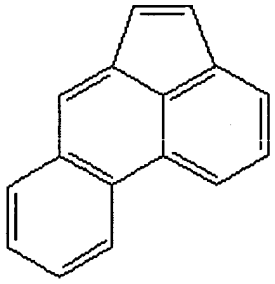
PHENALENE (CAS RN: 203-80-5)



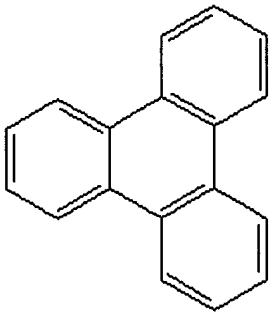
ANTHRACENE (CAS RN:120-12-7)



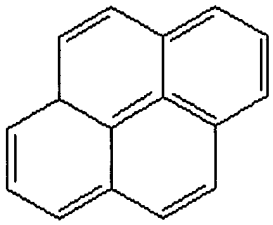
FLUORANTHENE (CAS RN: 206-44-0)



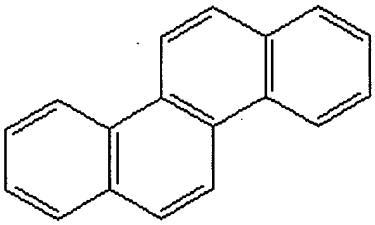
ACEPHENANTHRYLENE



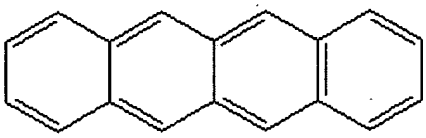
TRIPHENYLENE (CAS RN: 217-59-4)



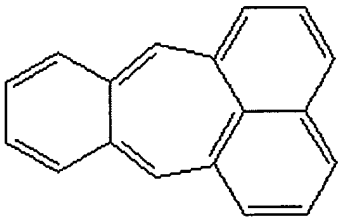
PYRENE (CAS RN: 129-00-0)



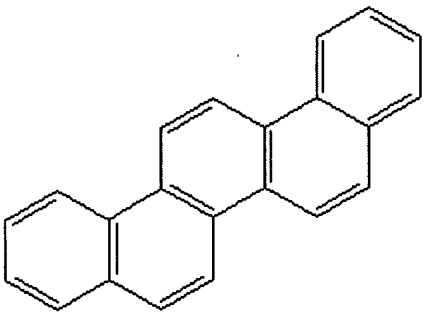
CHRYSENE (CAS RN: 218-01-9)



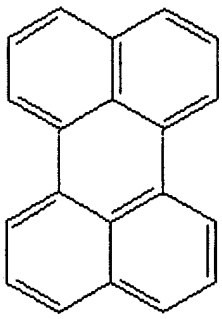
NAPHTHACENE (CAS RN: 92-24-0)



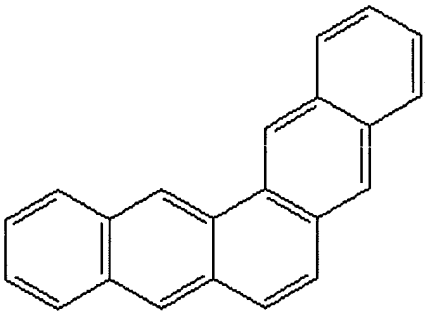
PLEIADENE (CAS RN:)



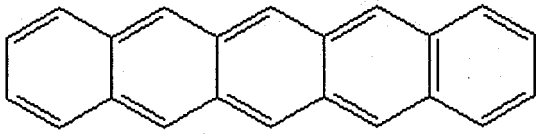
PICENE (CAS RN: 213-46-7)



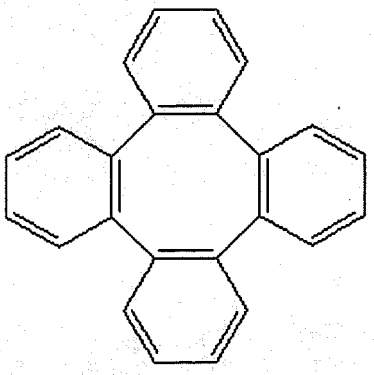
PERYLENE (CAS RN: 198-55-0)



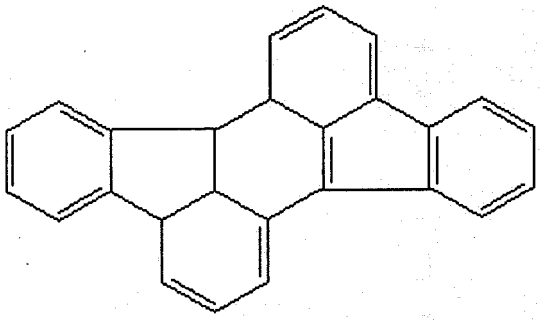
PENTAPHENE (CAS RN: 222-93-5)



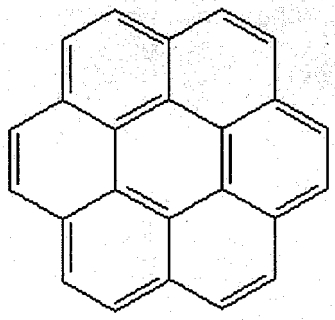
PENTACENE (CAS RN: 135-48-8)



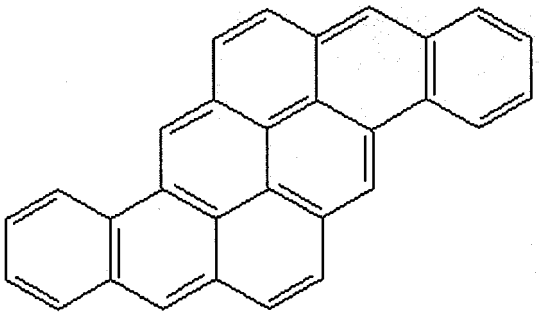
TETRAPHENYLENE (CAS RN: 212-74-8)



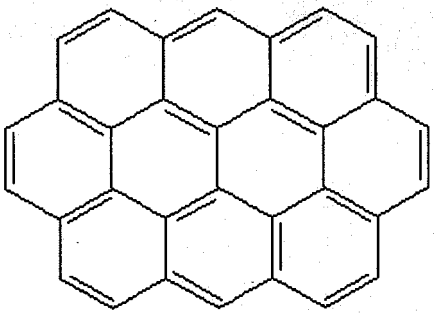
RUBICENE (CAS RN: 197-61-5)



CORONENE (CAS RN: 191-07-1)

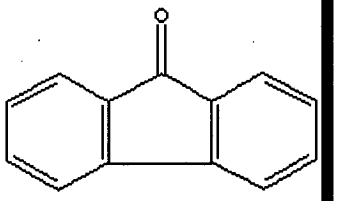


PYRANTHRENE (CAS RN: 191-13-9)



OVALENE (CAS RN:190-26-1)

9-FLUORENONE



PRODUCT IDENTIFICATION

CAS NO.	486-25-9
EINECS NO.	207-630-7
FORMULA	$C_{13}H_8O$
MOL WT.	180.21
H.S. CODE	
TOXICITY	
SYNONYMS	Fluoren-9-one; 9-Fluorenone; 9H-Fluoren-9-one; 9-Oxofluorene; Diphenylene ketone;
DERIVATION	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	yellow crystalline powder
MELTING POINT	82 - 85 C
BOILING POINT	342 C
SPECIFIC GRAVITY	1.13
SOLUBILITY IN WATER	
AUTOIGNITION	
pH	
VAPOR DENSITY	
NFPA RATINGS	
REFRACTIVE INDEX	
FLASH POINT	163 C
STABILITY	Stable under ordinary conditions. Oxidizes in light

APPLICATIONS

Fluorene is a member of polycyclic aromatic hydrocarbon (PAH). Two benzene rings are fused to cyclopentane ring. It emits violet fluorescent color. It is not synthesized commercially but is obtained from middle oil fraction of coal tar. It is insoluble in water; soluble in ether and acetone; melting point 116-117 C. It plays important part in metallocene catalysts as a ligand. It is used in the formation of polyradicals for resins. It is used in manufacturing antimalaria drugs and other pharmaceuticals. Fluorene family compounds are base materials for dyes and optical brightening agents. They have useful functions such as light and temperature sensitivity, heat resistance, conductivity, emittability, corrosion resistance and detection of amino groups. They are used in the applications of thermo and light sensitizer, liquid crystal chemistry, luminescence chemistry, spectrophotometric analysis, molecular chemistry, organometallic-complexes and biochemorphology industry. Oxidation of fluorenean occur readily at the most reactive position 9. 9-Fluorenone has been investigated as an attractive element in organic solar cells, and display devices.

SALES SPECIFICATION

APPEARANCE	yellow crystalline powder
ASSAY (G.C)	99.5% min
MELTING POINT	82 C min
LOSS ON DRYING	0.5% max

TRANSPORTATION

PACKING	25kgs in fiber drum
HAZARD CLASS	
UN NO.	

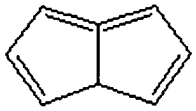
GENERAL DESCRIPTION OF PAHs

Polycyclic aromatic hydrocarbons (also called polynuclear hydrocarbons) have two or more single or fused aromatic rings if a pair of carbon atoms is shared between rings in their molecules. In particular, the term 'PAH' refers to the compounds consisting of only carbon and hydrogen atoms while the wider term 'polycyclic aromatic compounds' includes the alkyl-substituted derivatives and functional derivatives such as nitro- and hydroxy-PAH as well as the heterocyclic analogues, which contain one or more hetero atoms in the aromatic structure. PAHs exist in various combinations that manifest various functions such as light sensitivity, heat resistance, conductivity, emittability, corrosion resistance and physiological action. The simplest examples are naphthalene having two benzene rings side by side and biphenyl having two bond-connected benzene rings. PAHs are not found in synthetic products and are non-essential for the growth of living cells. The general characteristics of PAH describe high melting- and boiling-points (they are solid), low vapour pressure, and very low water solubility, decreasing with increasing molecular weight whereas resistance to oxidation, reduction, and vapourization increases. Vapour pressure tends to decrease with increasing molecular weight. PAHs are highly lipophilic and readily soluble in organic solvents. The lower molecular weight PAHs of 2 or 3 ring groups such as naphthalenes, fluorenes, phenanthrenes, and anthracenes have toxicity which tends to decrease with increasing molecular weight. PAHs are not synthesized chemically for industrial purposes but are isolated from concentrated coal-tar products (or from pyrolysis of coal hydrocarbons) followed by subsequent purification through repeated distillation and crystallization. Some PAHs such as naphthalene are also obtained from the concentration of the high boiling residual oil (and asphalt) derived from crude petroleum refinery processing. These PAHs are mostly used as intermediaries in pharmaceuticals, agricultural products, photographic products, thermosetting plastics, lubricating materials, and other chemical industries. General uses are;

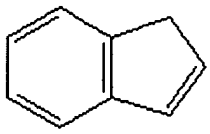
- Acenaphthene: Intermediate for naphthalic acids, naphthalic anhydride (intermediate for pigments) and for acenaphthylene (intermediate for resins); Intermediate for dyes, soaps, pigments, pharmaceuticals, insecticide, fungicide, herbicide and plant growth hormones. It is used to manufacture plastics and as an agent for inducing polyploidy.
- Acridine: Dye and pharmaceutical manufacturing
- Anthracene: Its oxidation yields anthraquinone, the parent substance of a large class of dyes and pigments; .diluent for wood preservatives; scintillant (for detection of high-energy radiation)
- Fluoranthene: manufacturing fluorescent and vat dyes, pharmaceuticals and agrochemicals.
- Fluorene: basic subsance for production of dyes, pigments, pesticides, thermoset plstic and pharmaceuticals; manufacturing fluorenone (mild oxidizing agent)
- Naphthalene: In the production of phthalic anhydride, carbaryl insecticide, beta-naphthol, tanning agents, moth repellent, and surfactants - naphthalene: main use: production of phthalic anhydride (intermediate for polyvinyl chloride plasticizers); also, production of azo dyes, surfactants and dispersants, tanning agents, carbaryl (insecticide), alkylnaphthalene solvents (for carbonless copy paper), and use without processing as a fumigant (moth repellent)
- Phenanthrene: manufacturing phenanthrenequinone (intermediate for pesticides); manufacturing diphenic acid (intermediate for resins)
- Pyrene: manufacturing perinon pigments
- Quinoline: solvent for resins & terpines; decarboxylation agent; parent compound to make drugs, fungicides, biocides, alkaloids, dyes, rubber chemicals and flavoring agents

Precise PAHs, specific refined products are used also in the field of electronics, functional plastics and liquid crystals. Pharmaceutical and agricultural PAHs obtained from coal tar are such materials as indole, indolizine, indene, quinoline, quinalidine, isoquinoline and their derivatives. High boiling-point special solvent are such materials as tetoralin, decaline, methyl-naphthalenes. Coumarins and dihydrocoumarins which can be obtained from coal tar are PAHs used in perfumery. Thermosensitive paper sensitizer PAHs are such materials as p-benzylbiphenyl and ethylbiphenyl.

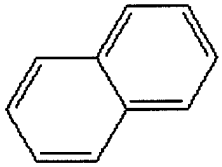
EXAMPLES OF PAH PARENT COMPOUNDS



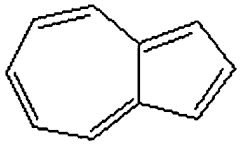
PENTALENE



INDENE (CAS RN: 95-13-6)



NAPHTHALENE (CAS RN: 91-20-3)



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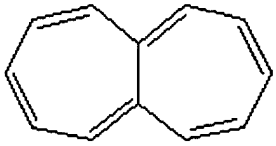

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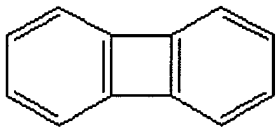

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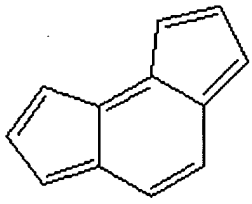

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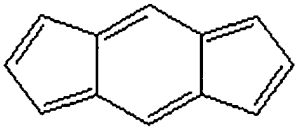

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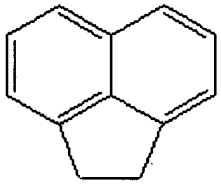

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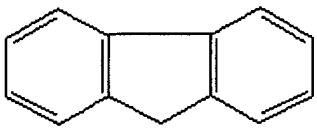

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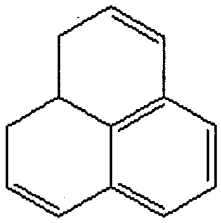

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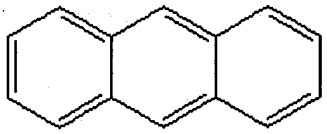

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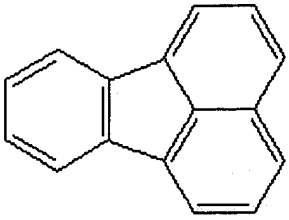

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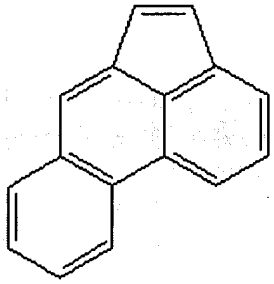

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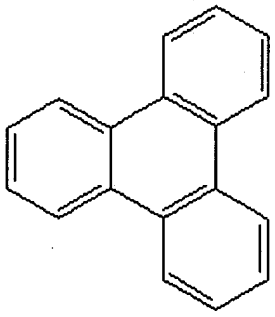

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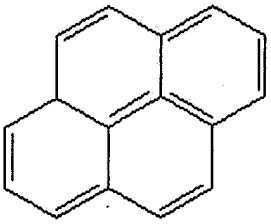

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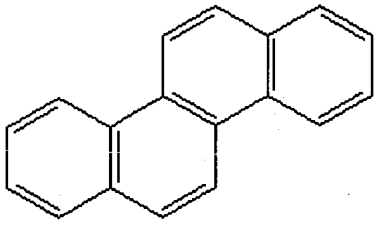

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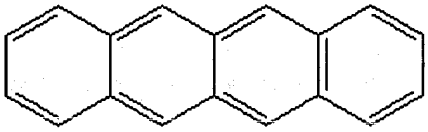

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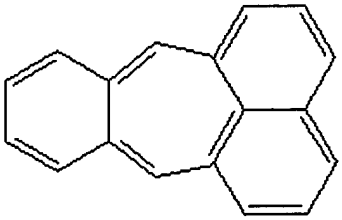

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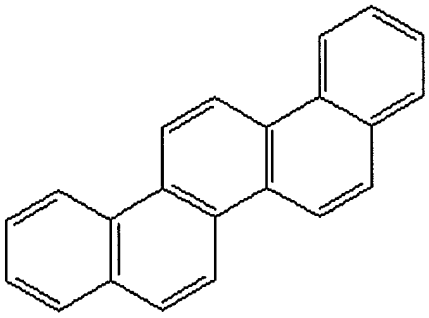

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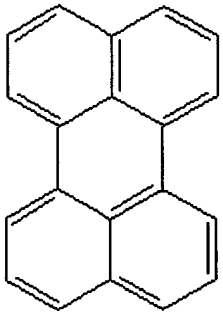

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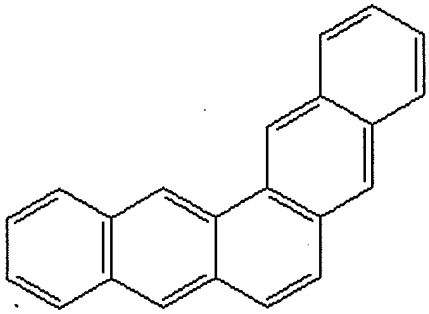

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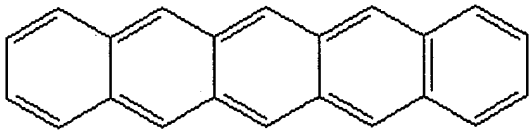

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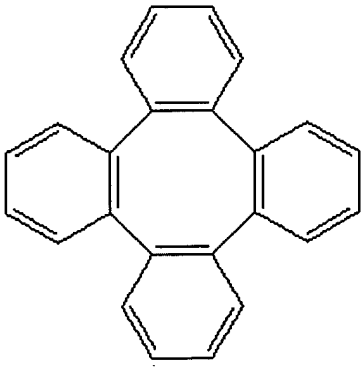

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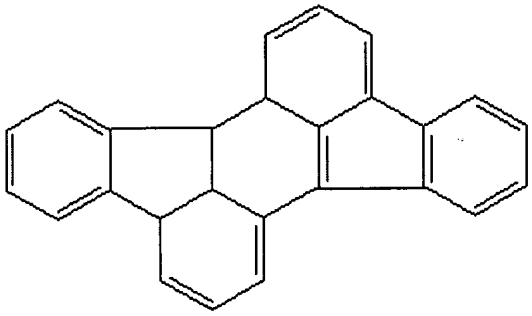

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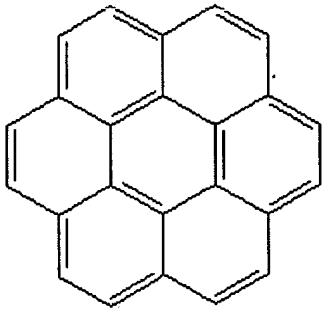

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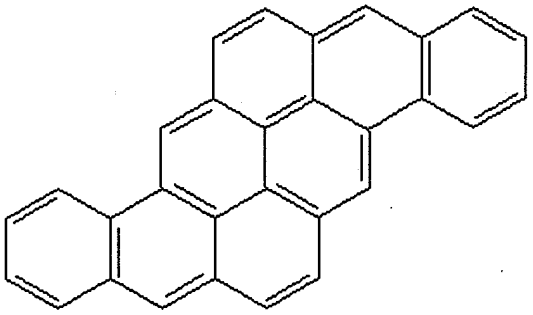

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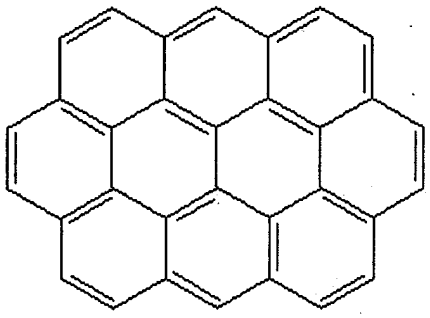


OVALENE (CAS RN:190-26-1)

It is respectfully submitted that in http://www.chem.wisc.edu/~newtrad/CurrRef/Glossary/Glossary.html, a derivative is defined as follows:

> **Derivative**
> A derivative of a compound resembles the original compound, except that some modifications in atomic structure are evident. Usually, derivatization of a molecule involves altering part of it slightly or adding a new part to the original compound.

Hence, Formula 1 and Formula 2 of the present claimed invention are clearly derivatives of fluorene. Also, Formula 1 and Formula 2 of the present claimed invention are derivatives of 9-fluorenone (also referred to as fluorenone). Thus, Formula 1 and Formula 2 of the present claimed invention may be described by those skilled in the art as being a fluorene compound or a fluorenone compound.

However, it appears that the Examiner believes that it may be more clear if the compounds of Formula 1 and Formula 2 of the present invention are referred to as compounds of 9-fluorenone. Hence, the terminology "fluorene" has been amended to recite ---9-fluorenone---. This change has been made throughout the specification and the claims. It is respectfully submitted that this is simply alternate naming, and it is clear to one skilled in the art that no new matter is added.

REJECTION UNDER 35 U.S.C. §112:

In the Office Action, at page 2, numbered paragraph 2, claims 1-12, 21-33 and 35-41 were rejected under 35 U.S.C. §112, first paragraph, for the reasons set forth therein. This rejection is traversed and reconsideration is requested.

The Examiner submits: "The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants fail to teach the fluorenone compound or how to make or use the compound. The halogen (X) is not taught in the specification and there are no working examples of the halogen substitutive fluorenone. The A and B substituted are not taught on any example and the carboxyl fluorenone of claims 2, 14, 22, 26, 36 fail to have the A group if the B group is the carbonyl group."

As noted above, the specification and claims have been reviewed, and the terminology "fluorene" has been amended to recite ---9-fluorenone---. This change has been made throughout the specification and the claims for clarity.

In response to the Examiner's request for examples of how to make or use the fluorenone compound, the following examples, which are known to those skilled in the art, are provided:

Synthesis Example 1: 9-fluorenone-4-carboxylic acid

To a 1-liter 3-neck round bottom flask, equipped with a thermometer, a mechanical stirrer and a reflux condenser were added 460 g of concentrated sulfuric acid (4.7 moles, analytical grade, commercially obtained from Sigma-Aldrich, Milwaukee, WI) and 100 g of diphenic acid (0.41 mole, commercially obtained from Acros Fisher Scientific Company Inc., Hanover Park, IL). Using a heating mantle, the flask was heated to 135-145°C for 12 minutes, and then cooled to room temperature (RT). After being cooled to RT, the solution was added to a 4 liter Erlenmeyer flask containing 3 liters of water. The mixture was stirred mechanically and was boiled gently for one hour. A yellow solid was filtered out hot, washed with hot water until the pH of the washing water was neutral, and was dried in the air overnight. The yellow solid was fluorenone-4-carboxylic acid (75 g., 80% yield, m.p. 223-224°C). A ^{1}H-NMR spectrum of fluorenone-4-carboxylic acid was obtained in d_6-DMSO by a 300 MHz NMR from Bruker Instrument. The peaks were found at δ = 7.39-7.50 (m, 2H); δ = 7.79-7.70 (q, 2H); δ = 7.74-7.85 (d, 1H); δ = 7.88-8.00 (d, 1H); and δ = 8.18-8.30 (d, 1H), where d is doublet, t is triplet, m is multiplet, dd is double doublet, and q is quintet.

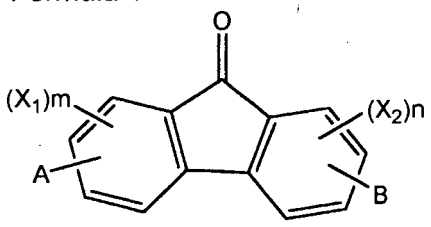
Synthesis Example 2: n=Butyl 9-fluorenone-4-carboxylic ester

To a 2-liter round bottom flask equipped with a mechanical stirrer and a reflux condenser with a Dean Stark apparatus were added 70 g (0.312 mole) of fluorenone-4-carboxylic acid, 480 g (6.5 mole) of n-Butanol (commercially obtained from Fisher Scientific Company Inc., Hanover Park, IL), 1000 ml of Toluene and 4 ml of concentrated sulfuric acid. The solution was refluxed

for 5 hours with aggressive agitation and refluxing, during which ~6 g of water were collected in the Dean Stark apparatus. The flask was cooled to room temperature. The solvents were evaporated and the residue was added to 4-liters of 3% sodium bicarbonate aqueous solution with agitation. The solid was filtered off, washed with water until the pH of the water was neutral, and dried in the hood overnight. The product was n-butyl 9-fluorenone-4-carboxylate ester (70 g, 80% yield). A ^{1}H-NMR spectrum of n-butyl fluorenone-4-carboxylate ester was obtained in $CDCl_3$ by a 300 MHz NMR from Bruker Instrument. The peaks were found at δ = 0.87-1.09 (t, 3H); δ = 1.42-1.70 (m, 2H); δ = 1.75-1.88 (q, 2H); δ = 4.26-4.64 (t, 2H); δ = 7.29-7.45 (m, 2H); δ = 7.46-7.58 (m, 1H); δ = 7.60-7.68 (dd, 1H); δ = 7.75-7.82 (dd, 1H); δ = 7.90-8.00 (dd, 1H); δ = 8.25-8.35 (dd, 1H); where d is doublet, t is triplet, m is multiplet, dd is double doublet, and q is quintet.

It is respectfully submitted that, in view of the above-cited amendments, the fluorenone compound and how to make or use the compound are known to those skilled in the art. For example, when m=n=0, one of the embodiments of Formula 1 of claim 1 is 9-fluorenone-2,7-dicarboxylic acid, which is available from Oakwood Products, Inc., 1741 Old Dunbar Road, West Columbia, South Carolina (see enclosure) and is also listed on the http://www.chemexper.com/chemicals/supplier listing on the Internet (see enclosure). It is respectfully submitted that it is known to those skilled in the art that halogen substituents (F, Cl, Br, I) may be added to the six-membered rings. The halogen substituents are highly electronegative, pulling electrons away from the six-membered rings toward themselves, making the rings less nucleophilic.

It is respectfully submitted that halogen is recited in amended paragraph [0024] of the specification, recited below for the convenience of the Examiner:

> [0024] A composition to form the charge generating layer has a 9-fluorenone compound represented by Formula 1 as an electron transport material and charges generated by a laser beam are easily injected into a charge transport layer and an overcoat layer:
>
> Formula 1
>
> 
>
>
> wherein A and B are independently selected from the group consisting of a carboxyl group
>
> (-COOH), a substituted or unsubstituted C_2-C_{10} alkoxycarbonyl group and a substituted or unsubstituted C_2-C_{10} alkylaminocarbonyl group, **X_1 and X_2 are independently a halogen atom**, and m and n are independently an integer from 0 to 3. (emphasis added)

Hence, **the halogen (X) is taught** in the specification. Although specific working examples of halogen-substituted fluorenones are not provided, it is respectfully submitted that halogen-substituted fluorenones are known to those skilled in the art, e.g., 2,7,-dibromo-9-fuorenone (see http://www.chemicalland21.com/arokorhi/specialtychem/NH/2,7-DIBROMO-9-FLUORENONE.htm, a copy of which is enclosed herewith).

In addition, as is known to those skilled in the art, when m and/or n are >0, halogen atom(s) may be coupled to the six-membered rings to form other embodiments of Formula 1 of claim 1.

Claim 2 has been amended to independent form. Claim 2 is based on amended paragraph [0026] of the specification. Hence, the Examiner's concerns about claim 2 are now submitted to be moot.

In view of the amendment of the terminology "fluorene" to ---9-fluorenone" and the amendment to claim 2, it is respectfully submitted that independent claims 1, 21, 25, 30, and 35 are in allowable form under 35 U.S.C. §112, first paragraph. Since claims 3-12, 22-24, 26-28, 31-33, and 36-41 depend from amended claims 1, 21, 25, 30 and 35, respectively, claims 3-12, 22-24, 26-28, 31-33, and 36-41 are submitted to be in allowable form under 35 U.S.C. §112, first paragraph, for at least the reasons that amended claims 1, 21, 25, 30 and 35 are in allowable form under 35 U.S.C. §112, first paragraph.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: May 23, 2006 By: Darleen J. Stockley

Darleen J. Stockley
Registration No. 34,257

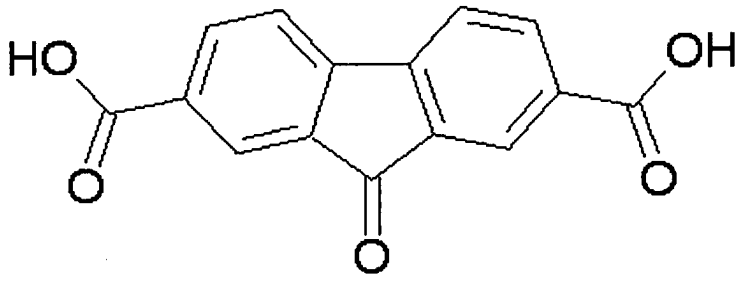
1201 New York Avenue, N.W.
Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501

Oakwood Products, Inc.

Catalog # 002569
Name: 9-Fluorenone-2,7-dicarboxylic acid

CAS:	792-26-7
Purity:	tech
MF:	$C_{15}H_8O_5$
BP:	
MP:	407°
Density:	
ND20:	
RTECS:	

Price	Quantity
$26	1g
$115	5g



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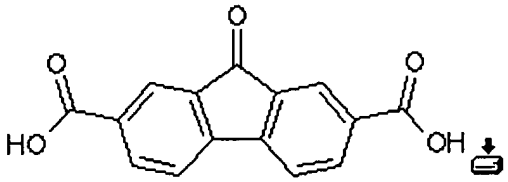
Oakwood Products, Inc. 1741 Old Dunbar Road, West Columbia, SC. 29172
phone: 800-467-3386 phone: 803-739-8800 fax: 803-739-6957

Enter a name, molecular formula or cas number »more info

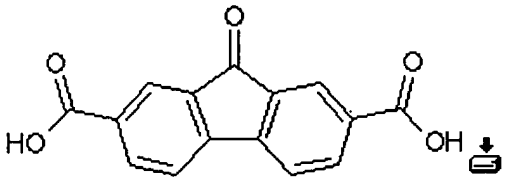
Find chemicals. 792-26-7 Search Search by structure Advanced Search

9-Fluorenone-2,7-dicarboxylic acid
9-Fluorenone-2,7-dicarboxylic acid, tech.
9-Fluorenone-2,7-dicarboxylic acid tech

RN: 792-26-7
MF: C15H8O5
MW: 268.22552



Click on a product name to get more information on that compound, on a supplier name to get more information on that supplier.

Supplier	Description	References & Quantities		
chempur	9-Fluorenone-2,7-dicarboxylic acid, tech.	F1260.5	5g	**Get offer**
chempur	9-Fluorenone-2,7-dicarboxylic acid, tech.	F1260.25	25g	**Get offer**
chempur	9-Fluorenone-2,7-dicarboxylic acid tech	fl2569.1	1g	**Get offer**
chempur	9-Fluorenone-2,7-dicarboxylic acid tech	fl2569.5	5g	**Get offer**
chemos	9-Fluorenone-2,7-dicarboxylic acid	on request		**Get offer**
abcr	9-Fluorenone-2,7-dicarboxylic acid , 98%	OA2569	1 g	**Get offer**
		OA2569	5 g	**Get offer**
matrixscientific		004908	1g	**Get offer**
		004908	5g	**Get offer**
fluorochem	9-Fluorenone-2,7-dicarboxylic acid , tech	002569	1g	**Get offer**
		002569	5g	**Get offer**
oakwood	9-Fluorenone-2,7-dicarboxylic acid , tech	002569	1g	**Get offer**
		002569	5g	**Get offer**

^

Results **1-9** of **9**

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Iupac name	RN (CAS)
5-Bromo-6-chloro-3-indolyl phosphate p-toluidine salt	6769-80-8
Indium(III) iodide	13510-35-5
3,4,5,6-Tetrabromo-o-cresol	576-55-6
5,6-Diamino-1,3-Dimethyluracil	5440-00-6
Fmoc-beta-cyclobutyl-D-Alanine	478183-63-0
Fmoc-beta-cyclobutyl-L-alanine	478183-62-9
2-Chloro-6-fluorophenylacetonitrile	75279-55-9
Mercury thiocyanatocobaltate(II) Cobalt tetrathiocyanatomercurate(II)	27685-51-4
9-Fluorenone-2,7-dicarboxylic acid	792-26-7
5-Fluoroindole-3-carboxaldehyde	2338-71-8
2-Methoxy-N-methyaniline	10541-78-3
Benzo[b]thiophene-2-carboxylic hydrazide Thianaphthene-2-carboxylic hydrazide	175135-07-6
4-Chlorobutyl acetate	6962-92-1
2,4,6-Trichlorobenzoic acid	50-43-1
1H,6H-Perfluorohexane	336-07-2
3-(5-Chloro-2-hydroxyphenyl)pyrazole	18704-67-1
4-(Trifluoromethylthio)benzaldehyde	4021-50-5
2-Mercapto-4-methylpyrimidine hydrochloride 4-Methyl-2-pyrimidinethiol hydrochloride	6959-66-6
1H-Benzimidazole-2-methanol	4856-97-7
1,2,3-Thiadiazole-4-carboxylic acid 4-Carboxy-1,2,3-thiadiazole	4100-13-4
Midazolam HCL	59467-96-8
3-Iodophenylboronic acid	221037-98-5
3-Hydroxy-2-quinoxalinecarboxylic acid	1204-75-7
N,N-Dimethyl-N'-ethylethylenediamine	123-83-1
(+)-3-Methyladipic acid (+)-3-Methylhexanedioic acid Methylhexanedioic acid	623-82-5
1-Nitro-2-Naphthol	550-60-7
3-Cyanobenzok Acid Methyl Ester	13531-48-1
2-(4-Biphenyl)ethylamine	17027-51-9
4,5-Dibromothiophene-2-carboxaldehyde 4,5-Dibromo-thiophene-2-carbaldehyde	38071-22-6

3-Chloro-3-(4-fluorophenyl)acrylonitrile	126417-76-3
4,5-Dibromo-o-xylene	24932-48-7
Ethyl 2-chloro-4-(trifluoromethyl)pyrimidine-	187035-79-6
6-Bromo-2-naphthyl-beta-D-galactopyranoside	15572-30-2
1,2-Bis(2-aminophenoxy)-ethane-N,N,N',N'-tetraacetic acid tetrasodium salt BAPTA tetrasodium salt	126824-24-6
1,3-Diphenylbenzo[c]thiophene 1,3-Diphenyl isothianaphthene	16587-39-6
4-Methoxybenzyl isocyanate	56651-60-6
cis-2-(4-Fluorobenzoyl)-1-cyclohexane-carboxylic acid	154810-33-0
5-Chloro-2-hydroxy-4-methylbenzophenone	68751-90-6
1-Acetoxy-4-diethylamino-2-butyne	22396-77-6
4-(tert-Butoxycarbonylaminomethyl)piperidine	135632-53-0
Ammonium tetrachloroplatinate(II)	13820-41-2
3,5-Dibromo-4-hydroxyacetophenone	2887-72-1
2-Methyl-5-phenylbenzoxazole	61931-68-8
Pentafluoropropionic anhydride	356-42-3
2-Bromo-4-nitrotoluene	7745-93-9
2-Methylsulphonylbenzoic acid 2-(Methylsulfonyl)benzoic acid	33963-55-2
2-Cyanoethylhydrazine	353-07-1
Trifluoroacetic acid 2,2,2-trifluoroethyl ester 2,2,2-Trifluoroethyl trifluoroacetate	407-38-5
Potassium tris(1-pyrazolyl)borohydride	18583-60-3
5-Fluorosalicylic acid	345-16-4
4-Fluoro-3-nitrotoluene	446-11-7
Tetradecylbenzene 1-Phenyltetradecane Myristylbenzene	1459-10-5
Sultamicillin Tosylate (Patented-No Supply)	83105-70-8
4-Fluorobenzyl triphenyl phosphoniumchloride	3462-95-1
1,3,6-Naphthalenetrisulfonic acid, sodium salt, hydrate	19437-42-4
3,5-Dimethoxybenzoic Acid Methyl Ester	2150-37-0
Doyle dirhodium catalyst - RH2(4S-MEOX)4	167693-36-9
Thioacetanilide	637-53-6
3-Aminophenyl trifluoromethyl sulfone	426-59-5
1-Bromo-3,5-dichloro-2,4,6-trifluorobenzene	24812-13-3
3-Bromo-4-methoxytoluene	22002-45-5
7-amino-3-((1h-1,2,3-triazol-5-yl)-thiomethyl)-ceph-3-em-4-carboxylic acid	37539-03-0
methyl 4-(cyanomethyl)benzoate	76469-88-0
2,3,4,5,6-Pentafluorobenzophenone	1536-23-8
1,2-Dichlorohexafluorocyclobutane	356-18-3

Phenylbutazone Sodium Salt	129-18-0
1,2,3,6,7,8,11,12-Octahydrobenzo[e]pyren-9(10H)-one 9-Oxo-1,2,3,6,7,8,9,10,11,12-decahydrobenzo[e]pyrene	68151-08-6
3,3,4,5,5,5-Hexafluoropentan-2-ol	2711-81-1
cis,cis,cis,cis-1,2,3,4-Cyclopentanetetracarboxylic acid	3786-91-2
(S)-2-(1-Naphthylmethyl)succinic acid-1-methyl ester (S)-3-Methoxycarbonyl-4-(1-naphthyl)butyric acid	130693-96-8
N-BOC-L-Aspartic acid N-(tert-Butoxycarbonyl)-L-aspartic acid Boc-L-Asp-OH BOC-L-Aspartic Acid-OH	13726-67-5
4-Chloro-3-nitrobenzonitrile	939-80-0
Nefazodone	83366-66-9
1-Fluoropyridinium tetrafluoroborate	107264-09-5
Hexachlorodisiloxane	14986-21-1
4-(4-Methylphenyl)butyric acid 4-(p-Tolyl)butyric acid	4521-22-6
R-(-)-2-Oxothiazolidine-4-Carboxylic Acid	19771-63-2
Tetraethyl pyrophosphite	21646-99-1
Acetonyltriphenylphosphonium chloride Acetonyl triphenylphosphonium chloride	1235-21-8
CIS-1,4-Cyclohexanediol	931-71-5
Benzofurazan-5-carbonyl chloride	126147-86-2
perfluorotripropylamine	338-83-0
4-Difluoromethoxy-3-hydroxybenzaldehyde	151103-08-1
3,5-Dichlorobenzenesulfonyl chloride	705-21-5
3-Perfluorooctyl-1,2-epoxypropane	38565-53-6
Tetrafluorosuccinyl difluoride	679-13-0
1,4-Cyclohexanedione mono-2,2-dimethyltrimethylene ketal 3,3-Dimethyl-1,5-dioxaspiro[5.5]undecan-9-one	69225-59-8
4-(Chloromethyl)-3,5-dimethylisoxazole	19788-37-5
(3,5-Dimethoxyphenyl)acetic acid 2,3-Dimethoxyphenylacetic acid	4670-10-4
Manganie Nitrate	20694-39-7
Triphenylphosphine selenide	3878-44-2
3,5-Dichlorophenylhydrazine	39943-56-1
1-(3-Dimethylaminopropyl)-piperazine	877-96-3
N-Methyl-2-phenylacetamide	6830-82-6
Ethyl 3-methyl-4,4,4-trifluorobutyrate	95853-67-1
2-Naphthyl-beta-D-galactopyranoside	33993-25-8
2-Nitro-4-(trifluoromethyl)benzoic acid 3-Nitro-5-(trifluoromethyl)benzoic acid	320-94-5 328-80-3
2,2-Diethoxyacetamide Glyoxylic amide diethyl acetal	61189-99-9

3-(4-Methoxyphenyl)pyrazole	27069-17-6
3-Bromo-1,1,1-trifluoro-2-propanol	88378-50-1
	431-34-5
Octadecylbenzene Stearylbenzene 1-Phenyloctadecane	4445-07-2

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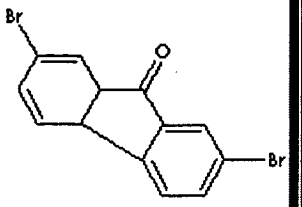
2,7-DIBROMO-9-FLUORENONE



PRODUCT IDENTIFICATION

CAS NO.	14348-75-5
EINECS NO.	
FORMULA	$C_{13}H_6Br_2O$
MOL WT.	337.99
H.S. CODE	
TOXICITY	
SYNONYMS	2,7-Dibromo Fluoren-9-one; 2,7-Dibromo Fluorenone;
DERIVATION	
CLASSIFICATION	

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	yellow crystalline powder
MELTING POINT	202 - 204 C
BOILING POINT	
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	
AUTOIGNITION	
pH	
VAPOR DENSITY	
NFPA RATINGS	
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions. Oxidizes in light

APPLICATIONS

Fluorene is a member of polycyclic aromatic hydrocarbon (PAH). Two benzene rings are fused to cyclopentane ring. It emits violet fluorescent color. It is not synthesized commercially but is obtained from middle oil fraction of coal tar. It is insoluble in water; soluble in ether and acetone; melting point 116-117 C. It plays important part in metallocene catalysts as a ligand. It is used in the formation of polyradicals for resins. It is used in manufacturing antimalaria drugs and other pharmaceuticals. Fluorene family compounds are base materials for dyes and optical brightening agents. They have useful functions such as light and temperature sensitivity, heat resistance, conductivity, emittability, corrosion resistance and detection of amino groups. They are used in the applications of thermo and light sensitizer, liquid crystal chemistry, luminescence chemistry, spectrophotometric analysis, molecular chemistry, organometallic-complexes and biochemorphology industry. Oxidation of fluorenean occur readily at the most reactive position 9. 9-Fluorenone has been investigated as an attractive element in organic solar cells, and display devices.

SALES SPECIFICATION

APPEARANCE	yellow crystalline powder
ASSAY (G.C)	97.0% min
MELTING POINT	202 - 204 C
TRANSPORTATION	
PACKING	20kgs in fiber drum
HAZARD CLASS	
UN NO.	
OTHER INFORMATION	

European Hazard Symbols: XI, Risk Phrases: 36/37/38, Safety Phrases: 26, 37/39

We are pleased to receive your any questions or remarks. You may contact us at the following numbers and e-mail address for additional information.
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